

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>SCPCT-84</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/JP2004/008024</b>	International filing date (day/month/year) <b>09.06.2004</b>	Priority date (day/month/year) <b>19.08.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>H01B5/00, C09J9/02, H01B1/22, H01R11/01</b>		
Applicant <b>SONY CHEMICALS CORP.</b>		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
- This report contains indications relating to the following items:
 

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/008024

Box No. I

## Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- sheets \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/008024

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	<u>1-7</u>	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	<u>1-7</u>	NO
Industrial applicability (IA)	Claims	<u>1-7</u>	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1: JP 11-241054 A (Sony Chemicals Corp.), 07 September 1999, entire text and fig. 1 to 7 & US 5965064 A & EP 0996321 A2			
Document 2: JP 59-189103 A (Nippon Shokubai Kagaku Kogyo Co., Ltd.), 26 October 1984, claims			
Document 3: DE 10016041 A1 (Stockhausen GmbH. & Co., KG.), 04 October 2001, Patentanspruche and paragraph [0018] & WO 01/74913 A1 & JP 2003-529647 A			
Document 4: JP 8-325543 A (Soken Chemical & Engineering Co., Ltd.), 10 December 1996, paragraphs [0042] to [0044]			
Document 5: JP 9-30112 A (Mitsubishi Paper Mills Ltd.), 04 February 1997, claims			
<p>The inventions set forth in claims 1 and 5 do not involve an inventive step in the light of documents 1 to 3 cited in the international search report. Document 1 discloses insulator coated electroconductive particles, which are configured by coating the surfaces of electroconductive particles with an insulating resin layer of an insulating resin that contains carboxyl groups, and further discloses a method for the production</p>			

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/008024

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
-----------	---

of said insulator coated electroconductive particles wherein it is preferable to use an acrylic acid-styrene copolymer, and particularly a crosslinked acrylic acid-styrene copolymer, as the insulating resin in the insulating resin layer. Meanwhile, the technical feature of surface crosslinking a resin that includes carboxyl groups by means of a multifunctional aziridine compound is well known, as can be demonstrated by documents 2 and 3; therefore, it would have been easy for a person skilled in the art to conceive of using an acrylic acid-styrene copolymer as the insulating resin in the insulating resin layer and then surface crosslinking the surface of said insulating resin layer by means of a multifunctional aziridine compound in the insulator coated electroconductive particles and the method for the production thereof which are disclosed in document 1.

The inventions set forth in claims 2 to 4 do not involve an inventive step in the light of documents 1 to 5 cited in the international search report. When employing the well-known technical feature of surface crosslinking a resin that includes carboxyl groups by means of a multifunctional aziridine compound, which is disclosed in documents 2 and 3, in the insulator coated electroconductive particles configured by coating the surfaces of electroconductive particles with an insulating resin layer of an acrylic acid-styrene copolymer, which are disclosed in document 1, it would have been easy for a person skilled in the art to conceive of employing trimethylolpropane tri- $\beta$ -aziridinypropionates, tetramethylolmethane tri- $\beta$ -aziridinypropionates and N, N-hexamethylene-1, 6-bis-1-aziridinecarboxamides such as those disclosed in

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/008024

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

documents 4 and 5 as the multifunctional aziridine compound.

The invention set forth in claims 6 to 7 does not involve an inventive step in the light of documents 1 to 5 cited in the international search report. Document 1 indirectly discloses an anisotropic electroconductive adhesive agent that is configured by dispersing the insulator coated electroconductive particles in an insulating adhesive agent that contains an epoxy resin.